

# ALBA MODEL 550 SUPERHET

## A.C. MAINS FOUR

**CIRCUIT.**—A 4-valve receiver operating from A.C. mains and covering the usual medium and long wavelengths.

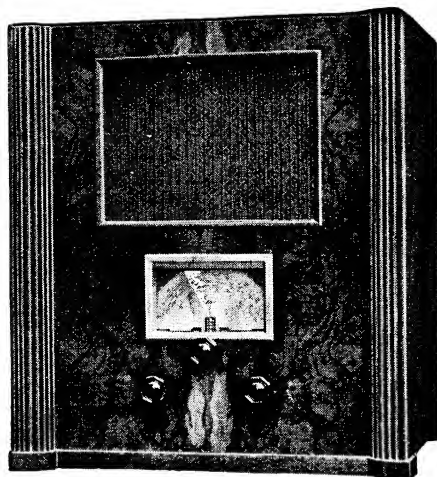
The aerial is coupled to V1, a frequency changer, through a band-pass coil. Signals then pass *via* an I.F. transformer tuned to 117.5 kcs. to V2, an H.F. pentode, which is coupled by means of a second I.F. transformer to V3, a double diode valve.

The rectified output of V3 is passed *via* a resistance and capacity stage incorporating the volume control, to V4, the output pentode, and then to the loud speaker *via* a matching transformer.

One diode of V3 is employed to supply A.V.C. bias to the preceding valve in the orthodox manner.

When the receiver is switched to the gramophone position, the input is to the grid of V2, which is resistance and capacity coupled directly to the output pentode.

Mains equipment consists of transformer, full wave rectifier, electrolytic condensers and the speaker field.



A.J. Balcombe are the makers of the Alba 550, an A.C. superhet four covering long and medium bands.

**Special Notes.**—The dial lamps are rated at 3.5 volts .15 amp. To remove them, turn the pointer until it is vertical, and the bulb holder may then be unclipped by sliding it sideways.

The external speaker is connected on the primary of the output transformer, and should therefore possess its own matching transformer.

**Removing chassis.**—Remove knobs from front and four bolts from underneath. The chassis will then slide out of the cabinet far enough for the usual repairs without disconnecting the speaker leads.

### ALIGNMENT NOTES

**I.F. Circuits.**—The intermediate frequency is 117.5 kcs. Remove control grid connection from frequency changer (top cap) and inject a signal of this frequency from a modulated oscillator. Trim for maximum reading on output meter connected across the speaker terminals.

**Medium waves.**—Connect a modulated oscillator to the aerial and earth terminals *via* a dummy aerial and an output meter across the external speaker terminals.

(1) Tune the oscillator and the receiver to 500 metres and adjust T1 and T2 for maximum reading on the output meter.

(2) Tune the oscillator and receiver to 220 metres and trim T3 for maximum reading.

(3) Repeat (1) and (2) until quite satisfied that no further improvement is possible.

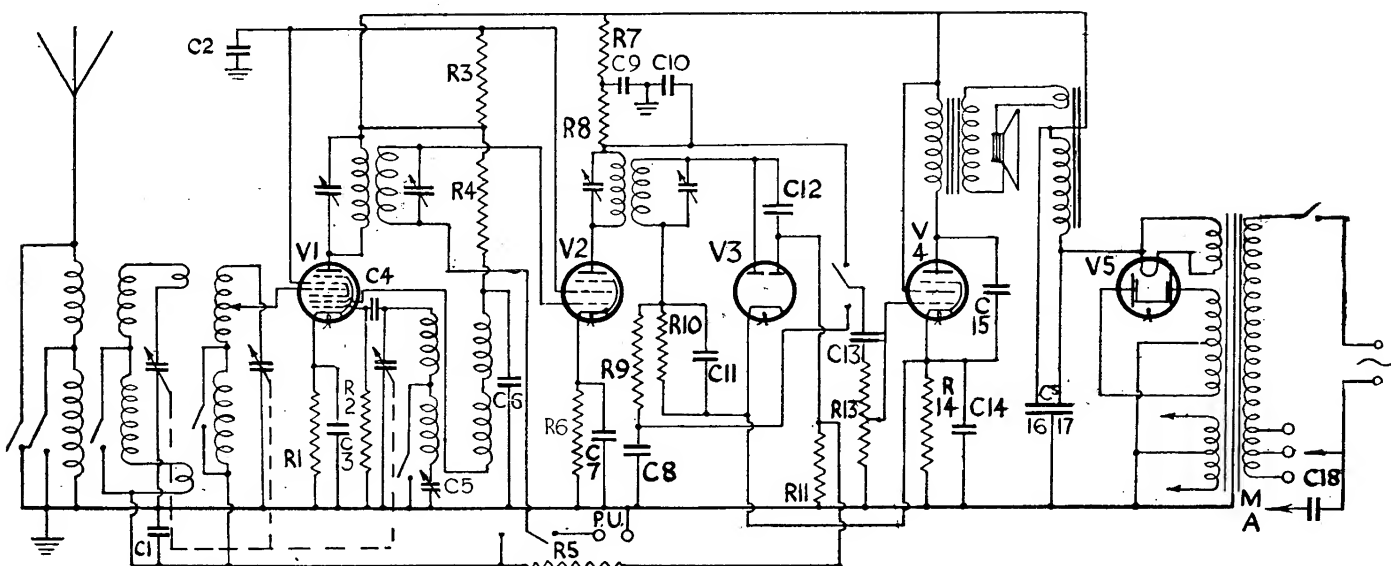
**Long waves.**—There is only one adjustment to be made. This is T4, the long-wave padding condenser, which must be adjusted for maximum output at 1,875 metres.

### CONDENSERS

C.	Purpose.	Mfd.
1	V1 A.V.C. decoupling ...	.1
2	V1 and V2 screen decoupling ...	2
3	V1 cathode bias shunt ...	.1
4	V1 osc. grid ...	.0002
5	Long wave padding ...	.0005
6	V1 osc. anode decoupling ...	.1
7	V2 cathode bias shunt ...	25
8	H.F. filter ...	.0001
9	V2 anode decoupling ...	.25
10	H.F. by-pass ...	.002
11	H.F. by-pass ...	.0002
12	A.V.C. diode coupling ...	.0002
13	L.F. coupling ...	.005
14	V4 cathode bias shunt ...	25
15	Pentode compensating ...	.005
16	H.T. smoothing ...	12
17	H.T. smoothing ...	8
18	Mains aerial ...	.0002

### RESISTANCES

R.	Purpose.	Ohms.
1	V1 cathode bias ...	200
2	V1 grid leak ...	.05 meg
3	V1 and V2 screen decoupling ...	.025 meg
4	V1 oscillator anode decoupling ...	.1 meg
5	V1 and V2 A.V.C. decoupling ...	1 meg
6	V2 cathode bias ...	400
7	V2 anode decoupling ...	5,000
8	H.F. filter ...	10,000
9	V2 anode L.F. load ...	.05 meg
10	V3 demodulator diode load ...	1 meg
11	A.V.C. diode load (part) ...	.5 meg
13	Volume control ...	.5 meg
14	V4 cathode bias ...	150



Circuit details of the Alba 550. Gramophone input is to V2, which, when the switch is in the "gram" position, feeds V4 direct.

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### QUICK TESTS

Quick Tests available on this receiver are on the terminal strip on the speaker transformer. Volts measured between this and the chassis should be:—

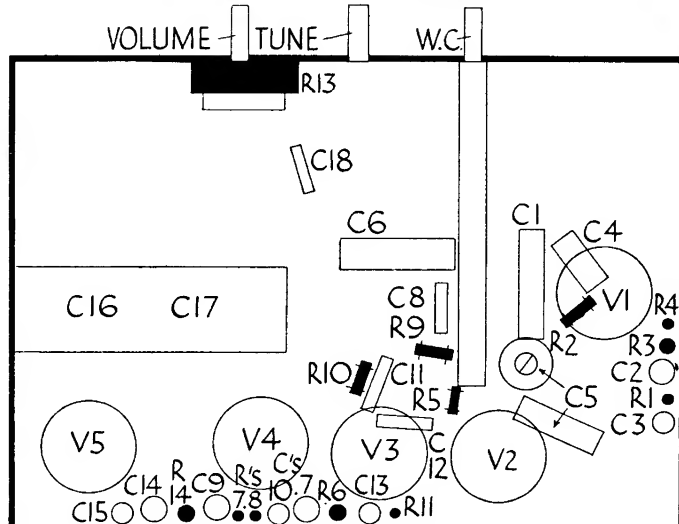
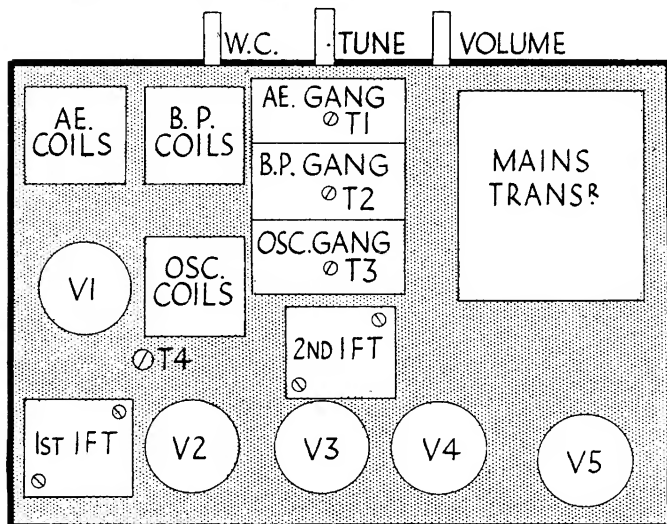
Red lead ...	250 smoothed H.T.
Black lead ...	230 smoothed H.T.
Blue lead ...	360 unsmoothed H.T.

Below are chassis layouts of Alba's 550. Left, tinted, is the top; right is the underside. All resistors are shown solid black, as in all layout diagrams in the "Service Engineer."

### VALVE READINGS

No signal. Volume maximum. 200 volt A.C. mains.

V.	Type.	Electrode.	Volts.	M/a.
1	All Mullard. FC4 (7) Met ...	Anode ...	250	2
		Screen ...	95	5.5
		Osc. anode ...	58	1.7
2	VP4A (7) Met ...	Anode ...	205	2.9
		Screen ...	95	1.4
3	2D4A (5) Met...	Diode ...	—	—
4	Pen 4VB (7) ...	Anode ...	240	31
		Screen ...	250	3.5
5	1W3 (4)' ...	Filament ...	360	—



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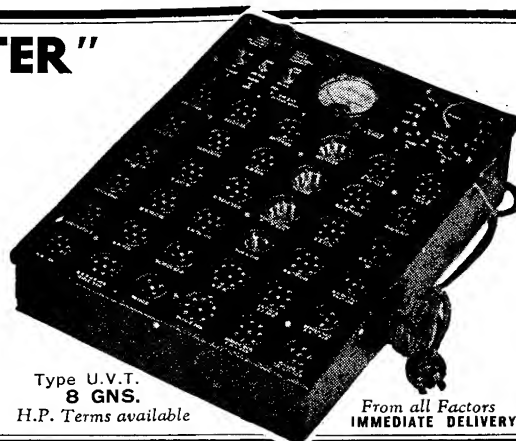
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